

# Notice of Allowability

Application No.

10/765,085

Examiner

Greg F. Cunningham

Applicant(s)

LIM ET AL.

Art Unit

2624

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application filed 1/28/2004.
2. ☒ The allowed claim(s) is/are 1-18.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

- |  |   |
|--|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                               | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material         | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other _____   |

### **DETAILED ACTION**

1. This action is responsive to application filed 01/28/2004.
2. The disposition of the claims is as follows: claims 1 - 18 are pending in the application. Claims 1, 13, 15 and 17 are independent claims.

### ***Allowable Subject Matter***

3. Claims 1 - 18 are allowed.
4. The following is an examiner's statement of reasons for allowance:

Applicant's independent claims 1, 13, 15 and 17 stand novel over the related art. For instance, the closest related art listed in the IDS "Skew Correction of Business Card Images in PDA" describes all of said claims. However, the reference is written by the inventors and published after the application date of the instant invention. Thus does not constitute prior art.

The next closest art, are Khosla (US 5,214,718) and Minami et al., (US 6,040,818), hereinafter Minami, both of which present relative light and dark character/background combination of luminance for pixels that teach the first element of the claimed instant invention "binarization part for binarizing pixels of the image into pixels having brightness values associated with character pixels and background pixels".

However both Khosla and Minami are deficient for the remaining independent claim elements, thereby lacking:

"a candidate stripe generation part for generating candidate stripes by performing dilation on character regions of the binarized image;

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a stripe classification part for classifying candidate stripes having a predetermined eccentricity and blob size among the candidate stripes, as valid stripes;

a skew angle decision part for calculating direction angles of the classified stripes, and determining a direction angle having the largest count value as a skew angle; and

a skew correction part for correcting a skew of an image by rotating the image by the skew angle”.

Independent claims 13 and 17, add additional claim elements that are also deficient in both Khosla and Minami. These additional elements are:

“a horizontal pixel subsampling part for performing horizontal subsampling on the binarized image at a predetermined ratio;

a vertical pixel subsampling part for performing vertical subsampling on the image having the candidate stripes at a predetermined ratio;

a stripe classification part for classifying candidate stripes having a predetermined eccentricity and blob size among the vertical-subsampled candidate stripes, as valid stripes”

Therefore as claimed by the combined elements of independent claims 1, 13, 15 and 17, the cited references and prior art of record lack separately and in combination the elements of said claims and therefore said claims are allowed.

Claims 2-12, 14, 16 and 18, depend from allowed independent claims 1, 13, 15 and 17, respectively, and therefore are also allowed.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### *Responses*

6. Responses to this action should be mailed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231. If applicant desires to fax a response, (703) 872-9306 may be used for formal communications.

### *Inquiries*


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory F. Cunningham whose telephone number is (571) 272-7784.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Bella can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Greg Cunningham



Examiner, Art Unit 2624

09/30/2007

**MATTHEW C. BELLA**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**